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Economic Research Service

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MAR 25 '86

A Bimonthly Newsletter for Economic Research Service Employees and Colleagues



ERS WELL REPRESENTED AMONG IAAE PARTICIPANTS

Several ERS staff members took part in the triennial conference of the International Association of Agricultural Economists (IAAE) that was held in Málaga, Spain, August 26-September 4, 1985.

ERS staff authored or coauthored the following papers:

The U.S. Exchange Rate and Agricultural Trade: Effects of Changes in the U.S. Money Supply on the World Coarse Grain Market, Mark Denbaly and Gary Williams (Iowa State University).

The Role of Natural Resources in Regional Economic Growth, Clark Edwards. P.L. 480 as a Development Tool:

Colombia, 1950-1980, Elaine Grigsby and James Simpson (University of Florida).

The Quality of Agricultural Trade Statistics: A Source of Instability?, Stephen W. Hiemstra.

Monetary Aggregate Targeting and the Overshooting Model of the Exchange Rate: The U.S.-Canadian Case, 1979-1984, John Kitchen.

Mexico's Agricultural Trade: Growing Dependency and Policy Implications, Myles Mielke.

Agricultural Price Policy Options in Bangladesh, Richard Nehring.

Government Intervention, Financial Constraints, and Trade and Growth of Third World Countries, Terry Roe (University of Minnesota) and Mathew Shane.

CURRENT SERIAL RECORDS

Constraints Facing African Countries to Provide Needed Food, Shala Shapouri, Arthur Dommen, and Stacey Rosen.

Debt and Drought: Uncertain Adjustments Facing African Agriculture, Brian D'Silva and Kamil Hassan (University of Khartoum).

Soil Erosion Control: Observations from the U.S. Experience, Gary Taylor.

An Inquiry into the Determinants and Structural Stability of Agricultural Trade, Thomas Vollrath.

The Effects of Production Restrictions on the Distribution of Income under Share Tenancy, Alan Webb.

ERS staff also served in the following roles:

- Chairpersons--John Lee, Mathew Shane, and Kelley White;

- Discussants--Mary Ahearn, Gregory Hanson, Stephen W. Hiemstra, John Kitchen, Brian D'Silva, and Thomas Vollrath;

- Rapporteurs--Cathy Jabara and Gary Taylor;

- Discussion group consultant--Mary Ahearn;

- AAEA travel grant awardees--Mary Ahearn, Gregory Hanson, and Cathy Jabara; and

- Committee members--Bruce Greenshields (Contributed Papers) and Lyle Schertz (Nominating).■

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UPCOMING PROFESSIONAL MEETINGS

Nov. 4 Seminar on **Analyzing Potential for Alternative Fruit and Vegetable Crops** sponsored by The Farm Foundation and USDA's Cooperative Regional Research Project on Structural and Operational Efficiency of the Fruit and Vegetable Production/Marketing System (S-178), New Orleans.

Dec. 28-30 Allied Social Science Associations (AAEA, AERE, and others), New York City.



RELOCATION UPDATE

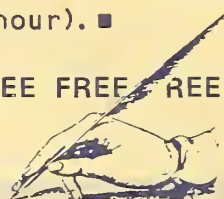
The General Services Administration has finally approved work orders for ERS's computer room, snack bar, and physical fitness center. Construction of those facilities will begin soon, and their completion will mark the end to the relocation of ERS to 1301 New York Avenue.

Travelers between ERS headquarters and USDA's main complex in southwest DC can use the free ERS shuttle that departs from the South Agriculture Building (4th Wing on C Street) hourly at 9:15-11:15 and 1:15-4:15 weekdays. The ride takes 10-15 minutes. The shuttle departs from 1301 New York Avenue (alley off H Street) hourly at 8:40-10:40 and 12:40-3:40.

Another speedy means to shuttle is by subway. Metro Center's 13th and G Streets entrance is only one block southeast of 1301 New York Avenue. To reach ERS headquarters from USDA's main complex, board the subway at the

Smithsonian Station, take either the Blue Line (toward National Airport) or the Orange Line (toward Ballston). Disembark at Metro Center (the second stop). If traveling in the other direction, board the subway at Metro Center and take either the Blue Line (toward Addison Road) or the Orange Line (toward New Carrollton). Disembark two stops later at the Smithsonian Station; use the north entrance (Mall) for the Administration Building and the south entrance (Independence Avenue) for the South Building. The entire trip (office to office) normally takes 10-15 minutes. The round-trip fare is \$1.60 (whether or not it's rush hour). ■

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NOTICE TO ERS COLLEAGUES

To receive your own copy of this free newsletter or to change your address, send your name, institutional affiliation, and address to ERS Newsletter, ERS/USDA, Room 1212, 1301 New York Ave., NW, Washington, DC, 20005-4788, or call 202-786-3310.

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ADMINISTRATOR'S LETTER

Information and perceptions are powerful influences on public policy. Information that is complete, accurate, and widely understood will probably generate more accurate perceptions than information that is less accurate and less widely shared. More accurate perceptions, in turn, stimulate more effective policies that address real problems rather than symptoms, especially where there is wider understanding of the real causes of problems and of the consequences of alternative remedies. Providing information to improve public policies and programs, especially those pertinent to agriculture and rural America, is the single most important mission of the Economic Research Service.

An example illustrates the point. Before 1979, accurate national information on the extent of foreign ownership of farm and forest land in the United States was minimal. In the late seventies, rumors and misinformation were rampant. State and Federal legislators responded to the public concern with a wide variety of legislative proposals to deal with the "growing problem." Fortunately, before drastic actions were taken, support was provided for collecting data on the issue. ERS's first annual report, **Foreign Ownership of U.S. Agricultural Land**, issued in 1979, showed that less than 1 percent of U.S. farmland was foreign owned (even under the most liberal definition of foreign). Concern over the issue declined rapidly, and radical, perhaps unwise, legislation was averted.

One could cite many such examples. Unfortunately, ignorance, misinformation, and inaccurate perceptions about most aspects of the economic workings of agriculture and rural America are still the norm rather than the exception. The problem is pervasive and contributes to ineffectiveness of public policies pertinent to the subject areas dealt with by agricultural economists. The ignorance among all segments of the public about the driving forces behind current domestic and global agricultural conditions, the assertions about causes of problems and consequences of alternative actions, and the frustrations of lawmakers as they grapple with ill-defined problems and potentially ineffective policy options are prime examples.

Better public policy education is one of the highest priorities of our profession, and ERS has an important role to play. To that end:

- We have dedicated ourselves to vastly improved economic indicators that enhance insight into the performance and structure of domestic and global agriculture, rural economies, and resource markets.
- We have begun work to increase the general awareness of the real level of public assistance to U.S. agriculture, which we hope ultimately to compare with public assistance to agricultural sectors of other nations and public assistance to other sectors of the U.S. economy.
- Central to our entire program is research to provide greater understanding of the consequences of present and alternative public (especially Federal) policies.
- The focus of our situation and outlook reports is gradually shifting to greater emphasis on educating users so they can understand the forces underlying emerging conditions, the sensitivity of outcomes to changes in specific variables, and, therefore, how to interpret the implications of subsequent information.

[Continued on page 11.]

Current Research

WORKSHOP HELD ON DERIVED DEMAND

An ERS-sponsored workshop was conducted recently on current research on farm-to-retail demand linkages. Current and planned research was discussed by the following individuals: Michael Wohlgenant (Texas A&M University), Ramon Lopez (University of Maryland), Eldon Ball (ERS), Gary Reisner (ERS), Robert Gempasaw (University of Delaware), and Utpal Vasavada (University of Georgia).

The purpose of the workshop was to familiarize researchers with the approaches and progress of others, to determine common data needs, and to identify possible areas of overlap. Other participants from ERS were Richard Haidacher, James Blaylock, David Smallwood, Kuo Huang, Lester Myers, Paul Nelson, and Charles Handy.

Two broad areas of research were discussed. The first dealt with farm-to-retail demand linkages. Retail food products and farm product price and quantity information will be used to estimate food manufacturers' demand for farm and nonfarm inputs and reduced-form retail price equations.

The second area dealt with production at the farm level. A multi-output model of production will be developed by ERS researcher Eldon Ball that incorporates dynamic or intertemporal adjustments in input and output levels.

Those and other projects discussed at the workshop will make significant contributions to understanding how

markets are linked across levels, time, and factors of production. The models developed will also have applications for analysis of policy issues and for situation and outlook work. ■

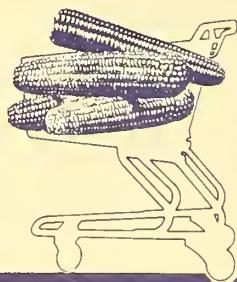
MORRISON AND ROBERTS COMPLETE OTA REPORT ON FOOD IRRADIATION

ERS economists Rosanna Morrison and Tanya Roberts have completed a report prepared for the Office of Technology Assessment (OTA) entitled **Food Irradiation: A Promising Technology? Technical, Regulatory, and Economic Considerations**. In addition to a review of irradiation's benefits and limitations, its regulatory status, and major Federal research and development activities, the report contains two original analyses.

Roberts estimated potential public health benefits of irradiating fresh chicken to reduce the incidence of salmonellosis and campylobacteriosis. Morrison analyzed the plant economies of scale for five applications of irradiation on foods. The report concludes with a list of policy issues raised by food irradiation technology. ■

GROCERY WHOLESALE INDUSTRY GROWING

Specialty wholesale grocery merchants--those who specialize in perishable foods--are growing in number and size of operation and continue to occupy the largest segment (almost 30 percent) of the wholesale food market. That finding comes from **Specialty**



Grocery Wholesaling: Structure and Performance, a forthcoming report by ERS economist Walter Epps.

A composite picture of the typical specialty wholesale grocery merchant, however, reveals an adaptable supplier who runs a low-volume operation with few employees, handles one product line, supplies particular customers, trades with other wholesale agents, and offers specialized services. Some changes in marketing techniques, such as processors selling directly to retail clients, may make some specialty grocery wholesalers less competitive. ■

U.S. VEGETABLE INDUSTRY: TRENDS IN THE EIGHTIES

Research by ERS economist John Love reveals that the U.S. vegetable industry expects demand for vegetables to continue increasing for the remainder of this decade. In the last 10 years, per capita consumption of fresh vegetables rose while per capita consumption of canned vegetables stabilized. That suggests that consumer preferences shifted in response to the widely held medical belief that diets high in vitamins and fiber provide health benefits. Generally, vegetable consumption increases until a person reaches 65 years of age, then tapers off slightly.

A total of 69,109 farms in the United States harvested over 3.3 million acres of vegetables in 1982. About half of the acreage produced four major crops: snap beans, green peas, sweet corn, and tomatoes. Ten States represented 75

percent of the acreage harvested of vegetables and melons: Arizona, California, Florida, Michigan, Minnesota, New York, Oregon, Texas, Washington, and Wisconsin. However, those States produce different combinations of vegetables because of differences in climate, geography, and distance to major markets. ■

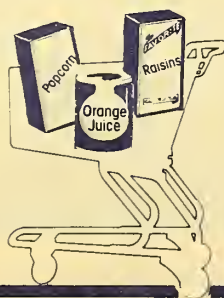


GOL NOW ON MICROCOMPUTERS

ERS's world grain, oilseed, and livestock (GOL) model was originally created and maintained in a simulation system run on a large mainframe computer. Recently, each of the 27 country/regional components of GOL was converted for microcomputer use.

Each microcomputer version of a GOL country model and the programs designed to operate the model occupy no more than one floppy disk each. All model components and data are entirely on spreadsheets, making it easy to create

[Continued on page 6.]



GOL, continued from 5.

additional spreadsheets of derived calculations and to print or plot output. Users of the microcomputer version of GOL need only know how to use a spreadsheet to use or modify the model.

For additional information about the microcomputer version of GOL, see **The World Grain, Oilseed, and Livestock Model--A Microcomputer Version** by Vernon Roningen, John Wainio, and Karen Liu, ERS Staff Report No. AGES-850826, or contact Karen Liu or John Wainio on 786-1634. ■



INTERNATIONAL TRANSPORTATION AND FARM EXPORTS

ERS economist Kay McLennan is examining ways in which agricultural exporters can better manage international transportation. The introduction of ocean freight rate futures contracts and the enactment of the Shipping Act of 1984 may significantly affect transportation costs and the ways agricultural exporters manage international transportation.

In general, shipping costs add 15-30 percent to the price of U.S. agricultural exports. Therefore, the competitiveness of U.S. farm products depends on effective shipping

management--obtaining the lowest, most stable freight rates and ensuring adequate, reliable services.

A new tool, freight rate futures contracts, may help bulk shippers overcome the problem of volatile freight rates. Yet, because freight rate futures have only been offered since May 1985, their long-term effects are unknown. The principal concern with freight futures is how accurately the index on which the contracts are based reflects the overall bulk market, and, more importantly, if the rates on a particular route shift in the same direction and amount as freight rate futures prices.

McLennan is also looking at some unanswered questions. Will there be enough trading activity to continue the use of futures? Will there be safeguards to prevent an individual or group from influencing the contract price?

The Shipping Act of 1984 has significantly changed the character of the liner shipping industry. While a number of the provisions should benefit agricultural shippers, the provisions that strengthen the power of carriers raise the possibility of decreased services and increased rates. ■

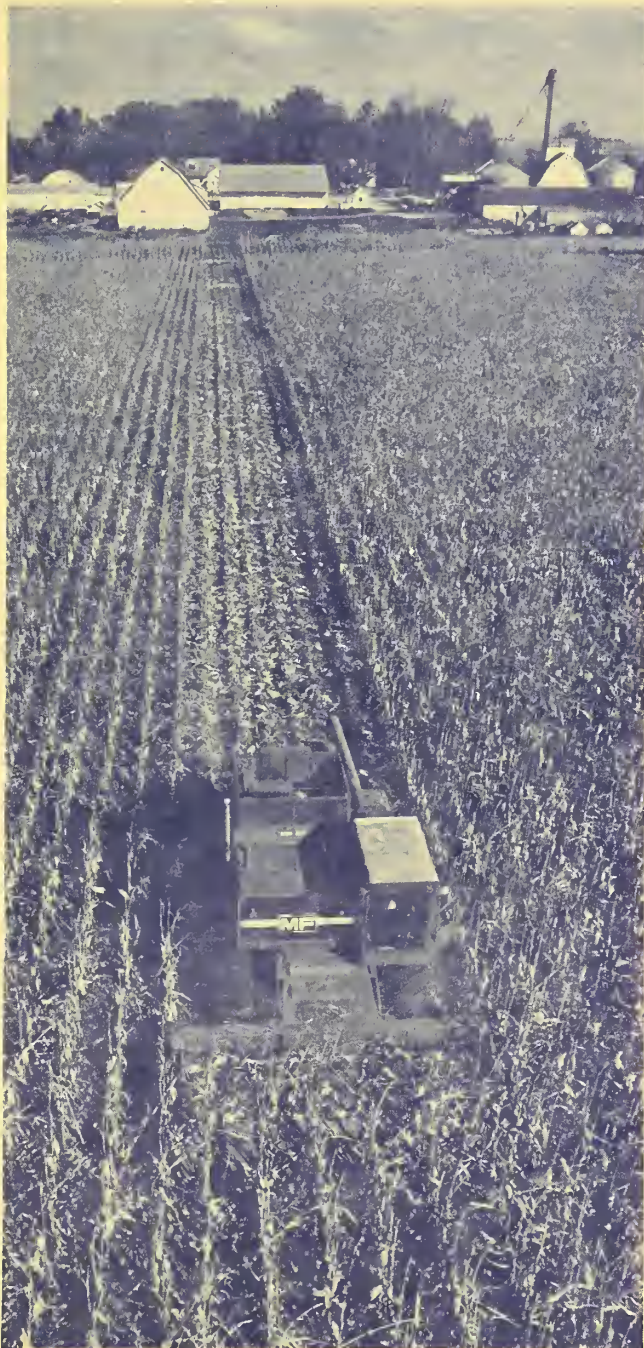
FARMLAND VALUES AND MARKETS

ERS researchers William Heneberry, Charles Barnard, John Jones, and Catherine Greene continue to monitor the farm real estate situation. For the last several years, U.S. farmland values have decreased in almost all sections of the country. More recent studies suggest a continuation of the decline in many areas of the United States during the last 6 months.

That new information supplements an ERS report, **Agricultural Land Values and Markets: Outlook and Situation Report**, published in August. Some of the major findings of that report are:

- Nationwide, farmland values declined 12 percent from April 1984 to April 1985, when they reached their lowest level since 1979. The drop was the largest since values fell 19 percent in 1933.

- Regionally, the largest declines were in the Corn Belt, Lake States, and



the Northern Plains, each of which incurred losses of 20 percent or more.

- On a State basis, values declined 40 percent or more from their peak levels in Nebraska, Iowa, Illinois, Indiana, and Ohio. Real values have declined even further.

- The U.S. average value as of April 1985 was \$679 an acre. State average values ranged from \$163 an acre in New Mexico to \$3,525 in New Jersey.

- Farmers continued to dominate the market for farmland. Most sellers were either active or retired farmers. Nonfarmers were involved in 20 percent of all sales reported.

- Credit was used in 82 percent of land purchases in 1985, compared with 90 percent or more during the peak value years of 1979-81. Sellers provided the highest proportion of credit, about one-third of the total. ■

A LOOK AT FARMS WITH ASSETS OVER \$1 MILLION

ERS economist Anthony Joseph recently used the Farm Costs and Returns Survey to compile the number and location of farms with assets of more than \$1 million. The results showed 89,000 farms with assets greater than \$1 million and 23,700 farms with assets greater than \$2 million.

The regions having the greatest number of farms with assets greater than \$1 million were in the Corn Belt (17 percent) and Mountain States (15 percent). The Southern Plains led with farms having assets greater than \$2 million (20 percent) followed by the Mountain States (18 percent).

Farms with sales between \$100,000 and \$250,000 make up 30 percent of the farms with assets above \$1 million, while farms selling \$500,000 or more constitute 41 percent of farms with assets exceeding \$2 million. In 1984, there were 2,800 farms with assets greater than \$1 million but with annual sales less than \$5,000. ■

BIOTECHNOLOGY AND AGRICULTURE

ERS economist Irving Starbird is participating in a study of the implications of biotechnology research and development for agriculture at the Georgia Institute of Technology. The Biotechnology Assessment Program is supported by a consortium of Federal agencies, including the Department of State and Central Intelligence Agency. Researchers will initially look at wheat, rice, corn, soybeans, and cotton, but later they will expand their assessments to include livestock, large-scale bioprocessing technologies, health care, and pharmaceuticals.

Researchers are studying several developments in the cotton industry, including some that have near-term implications, such as insect-suppression measures, plant-growth regulators, water management, and user-oriented computer software.

Genetic engineering probably will not dramatically affect the cotton industry until at least the turn of the century. An unlikely futuristic vision of cotton production would bypass the conventional cotton plant entirely through genetic manipulation of a single cell (perhaps in a fermentation-type process). That would enable producers to grow precisely the quality

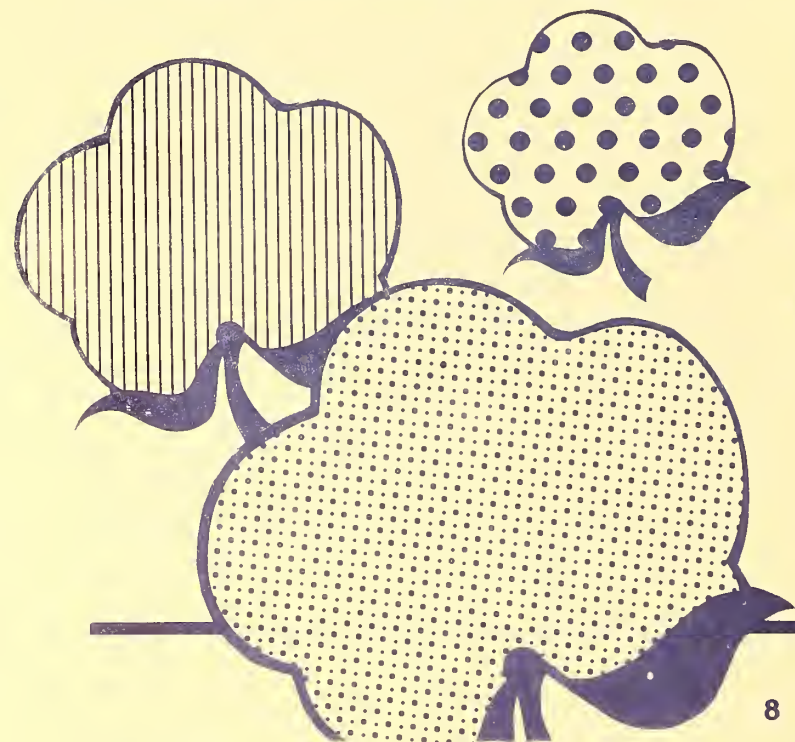
characteristics desired for specific end uses. The fiber would be produced without the leaf and without the boll. ■

FARM OPERATOR HOUSEHOLD INCOMES SKEWED

One-third of U.S. farms account for 90 percent of the sales of agricultural commodities, but those same farms account for only 22 percent of the off-farm income of farm operator households. That finding comes from a study recently completed by ERS economists Mary Ahearn, James Johnson, and Roger Strickland describing the financial well-being of farm operator households by measuring the size distribution of personal income in 1984 using data from the Farm Costs and Returns Survey. Ahearn, Johnson, and Strickland also analyzed the contribution of each source of income, from both farm and nonfarm sources, to the inequality of household incomes. The survey data indicate that the average farm operator's household total income (from farm and off-farm sources) was \$26,633 in 1984.

Farm income accounted for 39 percent of total farm household income. For analysis purposes, farm income was divided into three components: income from commodity production, Government payments, and income to the household (such as wages paid to family members), accounting for 3, 7, and 29 percent of total farm household income, respectively. The remaining 61 percent of farm household income came from off-farm sources, mainly from wages and salaries.

There was great dissimilarity among farm households in terms of financial well-being, production of agricultural commodities, and dependence on the farm for support. Income from farming is much more unequally distributed than income from off-farm sources. Also, income from all sources is less equally distributed than it was in 1966, the last time similar data were available. ■



CROPLAND AREA UP SLIGHTLY IN 1985

In 1985, land used for crops totaled 374 million acres, compared with 373 million and 333 million in 1984 and 1983, respectively. ERS economist Roger Hexem provides this information in the latest U.S. Cropland Situation and Outlook Report. Other findings in the report are:

- About 34 million acres of land were diverted from crop production in 1985. In 1984, the figure was 26.6 million acres. Those years contrast sharply to 1983 when about 78 million acres were idled under the payment-in-kind and other production adjustment programs.

- Regional adjustments in land used for crops over the past three decades have resulted in a higher concentration of acreage in the Corn Belt, Lake States, and Northern Plains, which together accounted for nearly 60 percent of all U.S. cropland in 1984. ■

SODBUSTING, EROSION, AND PUBLIC POLICY

During a recent study, ERS economist Ralph Heimlich examined the relationship between sodbusting, erosion, and public policy. Among his findings are the following:

- The economic conditions of the 1979-81 period, which encouraged sodbusting, are unlikely to be repeated soon;

- Limiting farm program subsidies for highly erodible cropland recently converted from other uses would further discourage sodbusting, but on relatively few acres;

- Adopting such a policy would ensure greater consistency between USDA commodity and conservation practices; and

- Effective enforcement of such a policy would require more precise identification of highly erodible land than that provided by current legislative proposals. ■



TRENDS IN DOUBLE CROPPING

Double cropping--the practice of growing two crops for harvest on the same field within a year--has become more frequent in the United States in recent years.

ERS economists Robert Boxley and Roger Hexem are currently analyzing double cropping patterns. Some of their initial findings are as follows:

- Double-cropped acreage in the United States nearly quadrupled between 1969 and 1982, increasing from 3.1 million to 12.4 million acres. That acreage represented 3.7 percent of all acres harvested in 1982, compared with only 1.1 in 1969.

- Expansions in double cropping were especially strong in the Appalachian, Delta, and Southeast regions, where growing seasons are relatively long.

- The main factors responsible for the increase in double cropping in the United States have been rising commodity prices during the seventies, development of earlier maturing plant varieties, shifts to conservation tillage (which allows more timely planting of the second crop), more supplemental irrigation, and formulation of herbicides suitable for conservation tillage. ■

HOW IS MONEY SPENT FOR AGRICULTURAL NATURAL RESOURCES IN THE UNITED STATES?

ERS economist George Pavelis recently concluded a study on historical investment rates and growth patterns for agricultural irrigation, drainage, and conservation capital in the United States. Among his major conclusions were:

- In 1980, the natural resource facilities and equipment in agriculture had a combined gross stock value of \$63.9 billion and a net (depreciated) value of \$44.4 billion, in 1977 dollars. They made up about 25 percent of the net value of all depreciable nonland business capital assets used for agriculture. Machinery and other producers' durable equipment accounted for 43 percent and farm service structures for the remaining 32 percent of depreciable business assets. The \$44.4 billion was made up of \$23.7 billion (53 percent) for irrigation, \$7.5 billion (17 percent) for drainage, and \$13.2 billion (30 percent) for soil and water conservation.

- As of 1980, the Federal Government, either by direct construction or through various cost-sharing programs, had contributed about 50 percent of all past investment funds for conservation, about 25 percent of the funds for irrigation, and 5 percent of the funds for drainage.

- As of 1980, natural resource capital in the aggregate was divided about equally between privately owned and publicly owned. Much of the latter, like large, multipurpose irrigation reservoirs, canals, and public drainage ditches, are built on or across remote, nonagricultural land.

- Between 1976-80, there was sharp growth of onfarm (relative to project) irrigation capital. That rapid growth is directly associated with the widespread adoption of new sprinkler (pressure) irrigation technologies such as large, center-pivot systems and other self-propelled and mobile irrigation systems, plus drip irrigation. ■



Staff Notes

**FAS/ERS PERSONNEL
EXCHANGE**

ERS economist Lois Caplan spent 5 weeks at the Office of Agricultural Affairs of USDA's Foreign Agricultural Service (FAS) in Tokyo during July and August 1985.

The assignment was arranged through the FAS/ERS memorandum of understanding, which included provisions for personnel exchanges, and was the first such exchange under that agreement.

While in Tokyo, Caplan contributed to various FAS projects, including preparation of the annual livestock and poultry report and a voluntary report on aquaculture. Caplan also attended the U.S.-Japanese forestry products negotiations held in July. The assignment proved to be beneficial to both Caplan, by gaining experience in Japan, and the Agriculture Office, by gaining backup support. Caplan is ERS's country analyst for Japan. ■

**REID NAMED BRANCH
CHIEF**

Norman Reid is the new Chief of the Rural Business and Government Branch in ERS's Agriculture and Rural Economics Division. He has a Ph.D. in political

science from the University of Illinois and 15 years of teaching and research experience.

Reid joined ERS in 1976 and has served as Leader of the State and Local Government Section since 1980. Previously, he was Assistant Director of an Illinois State agency dealing with intergovernmental relations issues.

Reid has written a number of articles and reports on rural local government

organization, finances, and services. Most recently, he has written a book (to be published in 1986) on rural public management issues in the member countries of the Organization for Economic Cooperation and Development. Reid has twice received the ERS Administrator's Special Merit Award. ■

LASLEY RETIRES

Floyd Lasley retired on September 2, 1985, after 25 years of Federal service. He started his career as a salesman with a feed company, then taught vocational agriculture in Missouri for several years.

Upon completing his Ph.D. at the University of Missouri, Lasley joined USDA and worked in the dairy economics field for many years. He became the Poultry Research Section Leader in 1979. ■

ADMINISTRATOR, continued from page 3.

Research and analysis to improve our understanding of circumstances, issues, and options are only the first steps. We share fully in the responsibility to communicate that understanding to others. Experience suggests that communication is a formidable task and that agricultural economists, with notable exceptions, are not particularly adept at it. But, as the National Agricultural Research and Extension Users Advisory Board (established by the Congress) recently put it, ERS should "...provide analyses in language that will enable individuals in agriculture to understand the economic concepts involved in their businesses..." so that they can better anticipate and respond to (rather than react to) changes in the marketplace.

In summary, generation of knowledge is a necessary but not sufficient condition for our usefulness. We actually become useful when the information we generate is translated into improved performance of markets and policies. ■

Photo by Carolyn Riley



Photo by Carolyn Riley



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